sive symptoms, and there is sometimes a copious flow of limpid urine. All these circumstances are important in forming a correct diagnosis.

The best treatment for this spasmodic jaundice is, after acting on the bowels by warm purgatives, to use fetid enemata, and prescribe a mixture composed of ether, castor, and ammoniated tincture of valerian and opium, which are of the greatest use when the bowels have been opened. In this form, as well as that which we have been lately considering, the fact is, that if you expect any good from opium, you must not give it until the bowels have been opened. Opium and antispasmodics have, I am convinced, often lost their character for utility, from being given at a time when the exciting causes of disease are still present in full energy; and the failure of these powerful auxiliaries is to be attributed to the neglect of proper measures for reducing intense irritation. In the spasmodic jaundice, tobacco injections would be likely to produce beneficial effects. Generally speaking, however, you will not find it necessary to have recourse to such a vigorous remedy, as the disease is most commonly observed in delicate females, and yields readily to milder treatment. Indeed, it will often disappear spontaneously, and without any apparent cause.—*Ibid.*

13. *On the Discharge of Fatty Matters from the Bowels.* By WILLIAM STOKES, M. D.—In the last volume of the Medico-Chirurgical Transactions, a great mass of interesting matter has been published on this subject by Dr. Bright, Dr. Elliotson, and Mr. Lloyd. I shall give you a short analysis of these papers; and I wish to impress this upon your recollection, that when you go into practice, the study of this affection would form a subject worthy of your investigation; and that any attempt on your part to clear up the difficulties which complicate this singular form of disease will be advantageous to the cause of science.

Dr. Bright gives three interesting cases of this disease. In these the discharge was in the form of oil or semi-concrete matter,—it floated on the top of the fæces, and had a fetid odour. There was also in these three cases a remarkable similarity in the pathological phenomena. The first case exhibited symptoms of jaundice, diabetes, enlarged liver, and discharge of fatty matter: on dissection the liver, pancreas, and duodenum were found diseased. The second presented symptoms of jaundice and disease of the liver, in addition to the fatty discharge: on dissection the liver was found healthy, but there was a similarly diseased condition of the duodenum and pancreas; there was malignant disease in both. Nearly the same symptoms were observed in the third case, and after death, disease was found in the pancreas, small intestine, and the pylorus was in a state of extensive ulceration. In all there was chronic disease of the pancreas and duodenum terminating in jaundice, from obstruction of the gall duct, and accompanied by discharge of fatty matter from the bowels. Here are three cases, in which there is an extraordinary similarity in the symptoms and pathological appearances. Dr. Bright is inclined to think that these discharges may be connected with disease of the pylorus and duodenum, but particularly with malignant affections of the pancreas, and gives the particulars of some cases in which disease of the pancreas was suspected, and in which, from the absence of this symptom, he was induced to give a contrary opinion, which, on dissection, turned out to be correct.

Mr. Lloyd's case resembles those detailed by Dr. Bright, inasmuch as it presented the phenomena of jaundice with obstruction of the gall ducts, disease of the head of the pancreas, and contraction of the duodenum. So that you see we have here four cases in which there was disease of the duodenum and disease of the pancreas, together with the occurrence of jaundice. I may, however, mention one fact, which you should be acquainted with; in Mr. Lloyd's case the pancreatic duct was found to be obstructed by calculi.

Dr. Elliotson commences his paper by alluding to that peculiar substance called ambergris, which is frequently washed ashore by the tide in several countries, and which is supposed to be a morbid production from the intestinal canal of the Physeter Macrocephalus, or spermaceti whale. The quantity found

in the intestinal canal of this animal is said to be enormous, and instances are mentioned, in which this substance was found to amount to 182 lbs. in the body of one of these animals. Dr. Elliotson proceeds to give cases from the records of medicine and from his own experience, in which a fatty discharge took place in the human subject. Of this he quotes cases from Mœllenbrochius and Mœbius in the Ephemerides, but one in particular from the works of Fabricius Hildanus, which I shall briefly recount. "A pious matron of Hilden had been for a long time subject to severe pain in the stomach, which became at length much worse, when one day the pain extended all over the abdomen, and after very severe pain and suffering, she discharged about three pounds of fat, which was of a pure quality, had no smell, and was preserved by her for many years." This woman recovered perfectly. Dr. Scott, of Howick, mentions the case of a servant girl, who had been treated with purgatives and injections, under the supposition that her disease was colic, and who, after two or three day's suffering, discharged a quantity of fatty substances, about the size of nuts, beans, and peas, which burned like fat when thrown into the fire; this patient also recovered. Dr. Babington gives another case, which had been mentioned to him by Sir E. Home, in which we find that a lady, who had been suffering, as it was supposed, from gall-stones, happening to take castor-oil draughts to open her bowels, passed a quantity of fatty matter. Another case is detailed by Mr. Howship, where a lady who had been attacked with pain, jaundice, and fever, passed a quantity of this substance with the subsidence of those symptoms. The fatty matter in this case was discharged after the lady had taken a pint of olive oil upon the recommendation of Dr. Simpson, of New Malton. Dr. Turner, of St. Thomas's Hospital, mentions the case of a female who laboured under an hysterical distention of the belly, and who passed quantities of this substance, specimens of which are preserved in the Hunterian Museum.

Sometimes these fatty discharges are found in the concrete, sometimes in the semi-fluid form. Dr. Elliotson mentions the case of a patient who had phthisis, diabetes, and discharge of fatty matter; thus he was at the same time passing fatty substance, large quantities of saccharine urine, and spitting up pus and softened tubercular matter. Between all these and the agonizing pain which he suffered, he became in a short time completely exhausted and sank rapidly. The fatty matter discharged in this case was shown to Dr. Prout and Mr. Faraday, and Dr. Prout stated he could not distinguish it from human fat when heated. Tulpius is quoted by Dr. Elliotson as relating a case where *fat was discharged from the bowels and bladder*, Here is the quotation:—"But what do we say of Margaret Appelmania, an innkeeper, who, in her 70th year, passed precisely the same fat, both from the intestines and the bladder, and likewise without fever, emaciation, or colliquative excretion. Towards the close of the disease, however, she did become feverish, and in consequence, so emaciated, that death found her little else than a juiceless dried up corpse." A similar case to this was communicated by Mr. Pearson to Dr. Elliotson. The symptoms were suppression of the biliary secretion and a copious discharge of *oil from the bowels and bladder*, which, it is stated, formed good soap when mixed with alkali. Dr. Prout has observed fatty matter passed with the urine, and considers this symptom as an indication of the probable supervention of malignant disease of the kidneys and bladder. The last case is from the *Annali Universali*, which is quoted by Dr. Johnson in the Medico-Chirurgical Review for July. In this case the patient, after fasting for a considerable time, took a quantity of indigestible food. On the evening of the same day he had an attack of vomiting: at first blood was thrown up, and then he ejected this fatty substance to the enormous amount of thirty pounds. There was, in this instance, a sudden and extraordinary emaciation, the patient was so reduced in the space of a few hours, that the skin hung in loose folds about him. He recovered in twenty days, but with great loss of bulk.

Let us inquire now what is the nature of this symptom. Is this fatty matter a morbid secretion from the liver, from the pancreas, from the mucous mem-

brane of the stomach, or from the intestines? There are facts to show, that in certain cases this disease cannot be explained by a reference to any of these circumstances. It seems plain, too, that Dr. Bright's suggestion of referring it to malignant disease of the duodenum and pancreas, and the diagnosis which he would seem to found upon it, cannot stand here; for the symptom upon which he attempts to establish a diagnosis—a discharge of fatty matter—occurs in persons who have recovered from the disease. We cannot suppose that they have been labouring under malignant disease of the duodenum and pancreas when they have recovered; and that a recovery may take place is proved by Dr. Elliotson's cases. It is quite probable, however, that if the irritation, or whatever it be that produces this discharge, should continue, it may bring on fungoid and malignant disease; but that the discharge of fatty matter is significant of the actual existence of such a condition is not borne out by these facts. Well, are we to look upon this discharge as a secretion from the liver? I think we cannot, because we have seen that in Dr. Bright's three cases the biliary ducts was obstructed by disease of the duodenum and pancreas. I may mention, too, that in some cases, where a dissection was made, the liver was found perfectly healthy, and the gall-bladder in its normal condition, full of pure bile. Taking this and the foregoing fact into consideration, we have proofs that this fatty substance, in some cases at least, cannot come from the liver. Does it proceed from the pancreas? It would more naturally come from the liver than the pancreas, for the liver does actually secrete a certain quantity of fatty matter; but there is no substance of this kind found in the secretion of the pancreas, which is considered to bear a strong analogy to that of the salivary glands. Besides, in the case mentioned by Mr. Lloyd, where the duct of the pancreas was obstructed by calculous secretions, this fatty matter has been discharged; and hence we cannot, I think, refer it to the pancreas. Whence, then, does it come? Is it a secretion from the surface of the intestines? This is a question which it is hard to determine. We do not yet know, nor have we ever met with that state in which lesion of structure in the mucous membrane of the intestinal canal has been followed by a discharge of fatty matter. We have discharges of serum, lymph, blood, and pus, from the surface of the intestines, according to the nature of the disease; but we know of no pathological condition as the result of which fatty matter may be produced. Again; cases of every known form of disease in the liver, pancreas, and intestinal canals, occur without this discharge at all. In the present state of medicine, the probability is, that this discharge is the result of a sort of metastasis of the secretion of fat from the other parts of the body, in which it is usually deposited, to the surface of the digestive tube, where it is poured out somewhat in the same way as in cholera; the fluids of the body are rapidly absorbed and eliminated by the intestinal canal. This supposition, without attempting to bring it forward as the true solution, furnishes us with the best explanation of the case. In the case of the patient who discharged this substance by stool, and with the urine, the emaciation came on rapidly, as if all the fat of the body had been absorbed and carried out of the system; here, too, the fat was discharged from another mucous surface. In the other remarkable case, where a vast quantity of this substance was thrown up by vomiting, the emaciation was so great, that the patient's skin hung in loose folds about him. When we reflect, too, that there is no recognised disease of the intestines, liver, or pancreas, to which this discharge can be referred, we cannot help believing that it is the result of a metastasis in the secretion of fat.

The next point in this matter which we have to consider is, what is the best mode of treatment, This question, I believe, cannot be answered at present; nor can our practice be any thing but empirical until we have more light thrown upon the subject. With a view to increasing our knowledge, I beg of you to make this disease the subject of your practical investigations, and to have a look out for this discharge, because I believe it often occurs unnoticed, from our neglecting to inspect the evacuations.—*Ibid, March 29th*, 1834.

which few would be afraid to employ the lancet with boldness. Patients labouring under acute inflammation of the liver generally have high sympathetic fever, a full, strong, and accelerated pulse, with the local symptoms above described, and, in addition to these, we frequently observe bilious vomitings, considerable thirst, derangement of the bowels, and scanty high-coloured urine. The tumefaction is more or less evident, and when this is accompanied by severe pain, there is considerable difficulty of breathing, a circumstance which sometimes occasions this disease to be mistaken for pleurisy. There are two remarks to be made on this subject. In the first place it sometimes happens that acute inflammation of the liver and of the lower part of the lung occur at the same time, particularly where inflammation attacks the diaphragmatic surface of the liver. Here you frequently have an extension of the inflammatory process to the corresponding surface of the pleura, or the two diseases coëxist from the first. Under such circumstances disputes as to which organ is engaged are often unnecessary. Again, in the early period, and when the attack is acute, the diagnosis of inflammation of the diaphragmatic surface of the liver or pleura, is comparatively of little consequence, as both demand the use of calomel and opium, leeches and the lancet; and in the early stages at least, both are amenable to the same treatment. But it is not so in the chronic stage of either. Here the diagnosis is of great importance; and when I come to treat of pleuritis I shall draw your attention to some researches of mine on this subject, which I hope have set this question at rest.

The pain which accompanies acute hepatitis varies much in situation. Sometimes it is felt in the shoulders, sometimes under the short ribs, sometimes in the loins, and frequently in the epigastrium. You have all heard of pain at the top of the shoulder as a common symptom of liver disease, in fact, so common as to be looked upon by some as a pathognomonic symptom. I belief that a great deal too much stress has been laid on this circumstance. It is now discovered, that so far from being a constant, or even a common symptom, it is one which is of exceedingly rare occurrence. I have never seen a case of acute hepatitis with pain in the shoulder; I have sometimes observed it in chronic, but never, to my recollection in acute cases. Andral states, that it is very seldom met with; Dr. Mackintosh says the same, and, if I recollect aright, looks upon it as a symptom not worth inquiring about. Now, I have seen some medical men who considered this pain in the shoulder as a diagnostic of such value, that if it happened to be absent they concluded there was no hepatic disease. The fact is that it is any thing but constant. You may have it in some cases, particularly of chronic hepatitis, and not of others; besides it frequently depends upon other causes—for instance, upon pneumonia of the top of the right lung, or it may be caused by incipient phthisis, aneurism of the arteria innominata, or right subclavain artery, and other diseases. It is of very little consequence whether it be absent or present; and the only reason while I dwell upon it is, to show you its real value as a symptom.

There is one remarkable circumstance connected with the pain of acute hepatitis. In one case, you will find that the pain is very acute and constant, in another, that little or none is felt; and when you come to investigate the cause of this after death, it generally happens, that in cases where the pain was violent the inflammation existed on the surface of the liver, and in those where little suffering was experienced, deep in the substance of that organ. This is a curious fact; but it may be looked upon as an illustration of a general law, *that if we consider inflammatory affections of the solid viscera, we shall find that the more superficial the inflammation, the more painful it is; and, on the other hand, the more deep-seated it is, the more is it latent, so far as pain is concerned.* Thus: if you take a case of inflammation of the substance or central parts of the brain, you will find that the disease is to be recognised often not by pain, but by the lesions of the sentient and locomotive powers; whereas, in inflammations of the membranes, on the surface of the same organ, one of the most prominent symptoms is agonizing head-ache. In the next place, go to the lung,

—take a case of deep-seated pneumonia, and contrast its almost painless character with the lancinating torture of an acute pleuro-pneumony. In pneumonia the pain is dull and scarcely complained of; but pleuritis, unacccompanied by acute suffering, is extremely rare; in fact, where you have the signs of inflammation of the parenchymatous tissue of the lung, with sharp pains in the chest, you may very safely make the diagnosis of pleuro-pneumony. The same absence of pain is by no means unusual in inflammatory affections of the mucous membrane of the intestines; but if the inflammation should chance to extend to its peritoneal investment, you will have this state rapidly exchanged for one of intense suffering. So it is with respect to the liver: disease on the surface of that organ is attended with severe pain; but enormous destruction of its deep-seated parts may take place, and your patient complain merely of a sense of uneasiness.

A late author on hepatic affections, Dr. Bell, who has written a treatise on diseases of India, describes the two forms of acute hepatic inflammation, which are different as to their seat and character. In one of these, which he terms *sero-hepatitis*, the disease is on the surface of the liver; in the other, which he terms *puro-hepatitis*, it exists in the centre. In the sero-hepatitis, he states that the patient is attacked with sudden pain in the region of the liver, and this is so severe that even the weight of the bed-clothes is insupportable; the patient cannot bear to turn or lie on his left side, from the pressure exerted in that position on the inflamed organ. But the deep-seated, or puro-hepatitis, may go on in such a latent manner that the first symptoms you have of the existence of liver disease are those which mark the occurrence of suppuration. Neither the patient nor his medical attendant will have reason to suspect inflammation of the liver, until the constitutional and local symptoms of the suppurative process direct attention to that organ. Such are the statements of Dr. Bell, which I believe to be correct, as they are supported by the concurrent testimony of many persons who have practised in India, with whom I have conversed on this subject. Mr. Annesly makes the same assertion; and such was our experience in the succession of cases of hepatic abscess which were under treatment in the Meath Hospital during the year 1828.

The next symptom which we have to consider is the tumefaction of the liver, and this, gentlemen, is one of considerable importance. In order, however, to estimate the extent of this tumefaction with any degree of accuracy, you must take the preliminary step, and that is to have the bowels fully evacuated. If the intestines are filled with feculent matter or gas, you cannot do this in a proper manner. A few hours before you make your examination give the patient a full purgative draught, assisted if necessary, by a purgative enema. In this way you empty the belly of collections of feculent matter and æriform fluid, and then you can with certainty and satisfaction ascertain the extent of the swelling. You will then be able, (when your patient is laid in bed,) perhaps to see at once the extent of the tumefaction, particularly where the parietes are not thick or loaded with fat; at all events you will be able to feel it with your hand, and in every case you can ascertain it by mediate percussion with the pleximeter. I do not know any more important adjuvant, in making out the diagnosis of an enlarged liver, than the use of mediate percussion. For instance, suppose you have a patient labouring under acute hepatitis, and that the tenderness of the organ is so great that he cannot allow you to make the requisite degree of pressure to ascertain the extent of the swelling; take the top of your stethoscope, apply it over the region of the liver, make use of light percussion, and you will find, with the greatest accuracy, how far the tumefaction of the liver extends by the dullness of sound heard over the inflamed organ, and exactly limited to it. In this way you can make a most satisfactory examination, without giving your patient any pain, and this is a matter of some importance, as you will meet with many cases in which there is exquisite tenderness, and where the patient will not bear the slightest pressure. I would advise you, therefore, to practice this mode; it gives little or no

pain, it is exceedingly simple, and I have not the slightest doubt of its accuracy. Now, the value of the tumefaction, as a sign of the existence of hepatic inflammation, depends very much on the recent nature of the attack. If a man who was in perfect health a few days back complains of pain in his right side, and has a tumour in that situation, it is to be presumed that this tumour does not depend upon the presence of a collection of fluid in the pleura, and consequently that the tumefaction is not produced by an empyema. Then, if in connexion with fever and pain in the right side you can ascertain the existence of a tumour in the region of the liver, and that it has occurred within a short space of time, you may be pretty sure that it is not an empyema, but an inflamed and enlarged liver.

Jaundice has also been considered as a symptom of hepatic inflammation, but it is one which is by no means constant. Again, you may have most extensive hepatitis, with slight jaundice, and universal and intense jaundice, with trifling or no hepatitis, and what is equally singular, you may have very little perceptible disease of the liver, with scanty secretion of bile; and, on the other hand, the liver may be burrowed with abscesses, and at the same time you find bilious stools, and after death the gall-bladder may be found filled with pure healthy bile. I thought at one time that I could explain the presence or absence of jaundice in cases of hepatitis, by supposing that where it occurred, the jaundice was the result of inflammation of the gastro-duodenal mucous membrane; and to prove this, I drew up a table of cases, of which one-half were complicated with jaundice, and the other not. I found, however, that in a great number of cases, where the tube was free from disease, the hepatitis was complicated with jaundice; and in a similar number of cases, where the same circumstances were observed, the tube was in a state of disease. So that we may have, as you perceive, hepatitis and jaundice with and without disease of the intestinal tube; and whether we look to the cases of hepatic inflammation, unaccompanied or complicated with jaundice, the state of the gastro-intestinal mucous membrane throws as yet no light on the subject. It appears, then, that the occurrence or non-occurrence of gastro-duodenitis does not explain why it is that in one case of hepatic inflammation jaundice is a prominent symptom, and in another is completely absent.

In some cases of acute inflammation of the liver the natural secretion of that organ seems to be totally annihilated. A curious case of this kind occurred under the care of Dr. Graves, in the Meath Hospital, where the slightest trace of bile did not exist in the gall-bladder, which was filled with a transparent mucus. In some instances you will find plenty of bile discharged; in others none; in some patients the stools are observed to be clay-coloured, or very faintly tinged with bile, in others they are healthy, and natural in colour as well as consistence. From our own experience, and from studying the series of cases published by Louis, we have come to the conclusion, that neither the presence nor the absence of bile in the stools affords any positive or useful information as to the different stages of this disease, its progress or termination.

Acute hepatitis terminates in a variety of modes. It may terminate by resolution,—here the organ returns to its former healthy state without any appreciable change of structure or function; it may terminate by the formation of matter,—here we have suppuration and abscess; it may terminate in gangrene: and lastly, it may, without the occurrence of suppuration or gangrene, pass into chronic hepatitis, of which the result may be a variety of morbid changes in the organ itself. When the patient is so fortunate as to meet with the first of these terminations, the fever, pain, and tumefaction gradually disappear. On making an examination with the pleximeter, you will find that part of the belly which was rendered dull by the tumefied liver, becomes clear on percussion; you will find also that the dullness of the lower part of the chest on the right side is removed; the patient can breathe without any difficulty, and lies on the affected side without inconvenience. But when the disease passes into the suppurative stage, the train of phenomena exhibit a marked difference.—*Ibid, April 5th*, 1834.